Revised Introduction
March 2012

SEPA ENVIRONMENTAL CHECKLIST

Purpose of checklist:

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

Instructions for applicants:

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Instructions for Lead Agencies:
Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

Use of checklist for nonproject proposals:

Please complete all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. ADDITION, complete the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D). For nonproject actions.

A. BACKGROUND

1. Name of proposed project, if applicable:
   Luhr Creek Fish Enhancement Project

2. Name of applicant:
   Washington Department of Fish and Wildlife

3. Address and phone number of applicant and contact person:
   600 Capitol Way N, Olympia, WA 98501: Chris Gourley (360) 902-8392

4. Date checklist prepared:
   01/11/13

5. Agency requesting checklist:

Washington Department of Fish and Wildlife

6. Proposed timing or schedule (including phasing, if applicable):

Construction will begin when permits allow in 2013.

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

No

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

None.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

None are known at this time.

10. List any government approvals or permits that will be needed for your proposal, if known.

A WDFW HPA permit, a USACE permit, and a Pierce County Shoreline Exemption permit will be needed. A Pierce County building permit may be required.

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

This project removes an undersized culvert pipe (18') and replaces it with a 20' clear span bottomless culvert in the intertidal zone. Luhr Creek has been dammed about 600 feet up from the perimeter Coastal Road on McNeil Island and was used for many years from the reservoir as a water source. The dam will be removed including a concrete flume and remnant pumps, pump houses, and a catch basin will also be removed. The creek will be moved from the flume where it currently flows to a new constructed channel to the south that will reduce the risk of the creek undermining the bank where the current pump house sits. A reinforced riffle will be added to the south channel's entrance in to the historic channel to reduce migration and cut.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, "and county" if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

Mc Neil Island cannot be reached by private boat. Security access must be granted by DSHS in order for visitors to reach the site. The site may be reached by arranging transportation through DSHS if the ferry is taken or by private vehicle via barge passage. From either docking station, turn left onto Coastal Road until you intercept Luhr Creek at the old Warden's House (yellow). The creek's pump house is labeled "Luhr Creek". The work site is within Township 20 N and Range 1 E, Section 17. It is in Pierce County and has no parcel number.

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site

(circle one): Flat, **rolling**, hilly, **steep slopes**, mountainous,
other _____

The work area is a lower gradient stream and it outlets onto a small sandy beach with a concrete bulkhead. Nearby, shorelines have bluffs or sand beaches that have often been modified with bulkheads or rip rap. Within 1/3 of a mile of the work site, hills are up to 140 feet tall and the highest point on the island is approximately 340 feet.

b. What is the steepest slope on the site (approximate percent slope)?

The steepest gradient on the site now is approximately 67% and occurs between the active pump station and the floodplain and between the road grade and the top of the bulkhead southwest of the crossing.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

The soils on the island are unclassified by USGS. Using GIS layers for geology, the soils on McNeil Island are primarily Vashon Stade from the Pleistocene age from continental glacial drift of the Fraser-age.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

No.

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

A precast concrete footing (approximately 33 cubic yards) will be placed as a base for the new culvert under the road. Light loose rip rap (approximately 50 cubic yards) will also be placed at both ends of the culvert for stability of the new culvert. The reinforced riffle with consist of 12 cubic yards of fill. All fill will be locally sourced where possible.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Erosion is likely to occur within the stream's bankfull width. The stream will be left with minor grading after project completion and there is a high likelihood that sediment will move through the system, including that from erosion and the creek's movement within the floodplain. The reinforced riffle that will be placed where the new south channel meets the current channel at the base of the flume will serve to keep the creek from migrating into the right bank where the current pump house stands. Allowing the stream to return to a more natural course, including the breach of the reservoir, will create siltation and movement of sediments through the system. The area currently under water in the reservoir will also likely change to include erosion. Though bathymetry was not been surveyed for the reservoir, it is likely that sediment deposits in this area are deep and will be carried out by new stream functions after removal of the dam. Very little clearing will be done, but even with stability plantings, it is expected that some runoff will enter the stream system.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

No increase in impervious surface will occur. There will be a reduction of impervious surface because of the structures and concrete that is being removed.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

Any potential erosion will be prevented using erosion control BMPs. A staging area will be assigned to the contractor to reduce erosion on site. A sediment barrier will be placed around the staging area and within any area that construction takes place to reduce erosion. BMPs may include, but will not be limited to silt fencing and weed-free straw bales. Plants and seeds will be used as soil stabilizers at project completion to maintain bank stabilization.

2. Air

a. What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

Vehicle exhaust and dust from construction is expected. No long-term change in emissions is expected from the completed project.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

No

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

Standard emission control converters and mufflers would be in use by construction vehicles.

3. **Water**

a. Surface Water:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

Luhr Creek and the Luhr Reservoir are the bodies of water to be worked on. Luhr Creek is currently a small creek that drains from the reservoir to Puget Sound. The system above the reservoir is suitable fish habitat.

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

All work will take place between the tidal beach and the reservoir. The pipe that currently enters into Puget Sound is 18" in diameter and undersized for the stream. This pipe will be replaced with a 20' clear span bottomless culvert. The reservoir dam will be removed and the current course of the stream, through the proposed demolished flume, will be redirected to the south into a new channel. See plans for further details.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

Estimated removal of concrete (pump pad, flume, pond wall, existing culvert, bulkhead, catch basin, and outbuildings) is 32 cubic yards above OHW and 18 cubic yards below

OHW for a total of 50 cubic yards. Removal of other materials (pump, outbuildings, and soil) will account for approximately 84 cubic yards above OHW and 120 cubic yards below OHW for a total of 204 cubic yards. The precast concrete footing for the culvert base will be approximately 33cubic yards. Light loose rip rap will be placed at the culvert ends for stability and longevity and will account for 50 cubic yards of fill, 10 cubic yards above OHW and 40 cubic yards below OHW.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

In order to remove the concrete dam and flume, the stream will need to be diverted at the reservoir. A temporary cofferdam will likely be placed to keep water out of the flume area while it is being removed. Water may be pumped from the reservoir to the newly –created southern channel in order to lower the reservoir enough to remove the dam. The relic pump structures can be removed without diversion. When the pipe is removed and the new culvert placed, a diversion may be necessary. Luhr Creek is very low velocity and has an estimated 100-year event flow of 54 cfs. Since the road must remain open, the contractor will be responsible for maintaining a reasonable diversion during construction that can accommodate the road being in place.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

This area is in Zone C and is not within the 100-year floodplain.

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

No.

b. Ground Water:

1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

It is not likely. It should be noted that the groundwater table is very close to the ground surface in this area. If ground water is to be drawn, it will be for the purposes of installing the culvert footings. Any pumped material will be pumped to upland before allowing the water to return to the creek or ocean.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

Not Applicable.

c. Water runoff (including stormwater):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Currently, storm water enters the system via overland flow, infiltration, and through a catch basin. The catch basin will be removed during the restoration. It is currently

covered with plants and debris. The creek will be widened in this area to accommodate the new culvert. Runoff will still run into the creek and infiltrate as before.

2) Could waste materials enter ground or surface waters? If so, generally describe.
Waste materials are not anticipated to enter ground or surface waters.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:
Temporary erosion and sediment control measures will be used during construction as described in the site plans. Staging and refueling of machines will be conducted out of the OHWM with non-toxic lubricants. During project demolition and construction, a cofferdam will be installed around the work area. Additional siltation prevention BMPs include filter fabric fences and hay bales. At project conclusion, these materials will be removed by hand and taken to an approved disposal site.

All exposed soils will be sloped to promote runoff and covered with straw mulch and grass seed. Native plantings will be installed where appropriate. All work will be done in accordance with the terms and conditions of required permits. Please see site drawings for additional details.

4. **Plants**

a. Check or circle types of vegetation found on the site:

__x__ deciduous tree: **alder**, **maple**, aspen, other:
__x__ evergreen tree: **fir**, **cedar**, pine, other
__x__ shrubs
__x__ grass
_____ pasture
_____ crop or grain
__x__ wet soil plants: cattail, **buttercup**, bullrush, **skunk cabbage**, other: **reed canarygrass**
__x__ water plants: water lily, eelgrass, milfoil, other
_____ other types of vegetation

b. What kind and amount of vegetation will be removed or altered?
Approximately 8 red alder trees will be removed to allow for equipment to maneuver and remove the components at the upstream end. Trees are expected to be left in the system where felled. Access will be created only where needed through plants.

c. List threatened or endangered species known to be on or near the site.
The Natural Heritage Program (NHP) databases as well as the federal agency listings (USFWS) were examined for threatened or endangered plants on January 2, 2013. Plants listed as threatened in Pierce County include the following: *Carex macrochaeta* (large-awn sedge), *Carex proposita* (Smoky Mountain sedge), *Howellia aquatilis* (howellia), *Lathyrus torreyi* (Torrey's peavine), *Meconella oregano* (white meconella), *Polystichum californicum* (California sword-fern), and *Symphyotrichum boreale* (rush aster). The only endangered plant listed in the county is *Castilleja levisecta* (golden paintbrush).

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

A native vegetation regime will be planted on disturbed soils. At the east end of the project where the flume is being removed is where the majority of the plantings will take place. Based on 6 foot on-center plantings for shrubs and 10 foot on-center planting for trees, an expected 18 trees and 32 shrubs will be needed to fill the 1800 square foot area. Douglas fir will be used as well as salmonberry, lady fern, and snowberry. Native seed mix will be placed on disturbed soils as well.

5. **Animals**

a. Circle any birds and animals which have been observed on or near the site or are known to be on or near the site:

birds: **hawk**, **heron**, **eagle**, **songbirds**, other:
mammals: **deer**, bear, elk, beaver, other:
fish: bass, **salmon**, **trout**, herring, shellfish, **other**

b. List any threatened or endangered species known to be on or near the site.

Threatened species in Pierce County include the following: northern spotted owl (*Strix occidentailis caurina*), marbled murrelet (*Brachyramphus marmoratus*), and bull trout (*Salvelinus confluentus*). Proposed threatened animals are streaked horned lark (*Eremophila alpestris strigata*) and Roy prairie pocket gopher (*Thomomys mazama glacialis*). There are no listed endangered species, however, Taylor's Checkerspot (*Euphydryas editha taylori*) are proposed endangered. North American wolverine (*Gulo gulo luscus*) is a candidate species in the county. Chinook salmon (*Onchorhynchus tshawytscha*) and steelhead trout (*O. mykiss*) are both threatened in this area

c. Is the site part of a migration route? If so, explain.

Puget Sound is at the mouth of the creek and is a migratory route for many fish and marine mammals. Many shore and sea birds use this area to forage and as a movement corridor. The creek and neighboring land are used by fish species and deer. Many raccoons also occupy the island and have been seen digging for shellfish on the beaches.

d. Proposed measures to preserve or enhance wildlife, if any:

To preserve fish and wildlife resources, WDFW will time this project to have minimal impact upon wildlife.

6. **Energy and natural resources**

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

None are needed.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

None are included.

7. **Environmental health**

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

1) Describe special emergency services that might be required.

None.

2) Proposed measures to reduce or control environmental health hazards, if any:

Avoid use of toxic chemicals and materials.

b. **Noise**

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

None.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

Increased levels of noise during construction activities are expected from this project. Hours of increased noise levels will be 7am to 6pm. No change in noise level is expected from the completed project.

3) Proposed measures to reduce or control noise impacts, if any:

No special noise reduction efforts are planned.

8. **Land and shoreline use**

a. What is the current use of the site and adjacent properties?

The site currently has a road running over the creek (Coastal Road). The road is used for perimeter patrol at least twice per day. The road may also be used at other times, but since the island is difficult to gain access to, it sees little use beyond patrol. The reservoir is no longer used as a water source for the island as it once was. The home adjacent to the creek is not in use and is boarded up. There is a fire hydrant near the creek that has potential to be in use.

b. Has the site been used for agriculture? If so, describe.

No. The site is adjacent to the old Warden's house, but there is no sign of agricultural use in the area. On the island, there are areas that were historically orchards and farmlands. None of these are within the project area.

c. Describe any structures on the site.

Currently, there is a newer pump house at the northeastern part of the site. There is also a concrete dam and relic pumps on a concrete slab. There are 2 older structures near the outlet of the creek. Across the road is the old Warden's house, which is no longer in use.

There is a concrete pipe under the road that currently carries the creek flow into Puget Sound.

d. Will any structures be demolished? If so, what?

The dam and relic pumps will be removed at the east end of the project. The 2 small structures near the perimeter road will also be removed. The pipe under the road will be removed, and with that, a catch basin that connects to the pipe and a portion of the bulkhead large enough to place the new culvert.

e. What Is the current zoning classification of the site?

Rural 40

f. What is the current comprehensive plan designation of the site?

Rural 40

g. If applicable, what is the current shoreline master program designation of the site?

Conservancy

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

Nearby to the north and south of the outlet of the creek into Puget Sound, there is Pacific geoduck presence. The island is a wildlife area (McNeil Island Wildlife Area) and is classified as a biodiversity area and corridor on the WDFW PHS system, which is a lowland Puget Sound mixed coniferous and deciduous forest with some abandoned farm fields and orchards. The shoreline is listed in PHS as estuarine intertidal area. Within about 0.5 miles of the project area is a bald eagle buffer. Mixed coniferous and deciduous forests exist between the work site and the bald eagle buffer. The Sound is also designated as Chinook Critical Habitat.

i. Approximately how many people would reside or work in the completed project?

None.

j. Approximately how many people would the completed project displace?

None.

k. Proposed measures to avoid or reduce displacement impacts, if any:

None.

L . Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

None.

9. **Housing**

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

None.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

None.

c. Proposed measures to reduce or control housing impacts, if any:

None.

10. **Aesthetics**

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

The only new structure on the site will be the new culvert that is going in. It will be at least 1.5 feet below the road, but will be about 6 feet above the bed of the creek.

b. What views in the immediate vicinity would be altered or obstructed?

None.

c. Proposed measures to reduce or control aesthetic impacts, if any:

None.

11. **Light and glare**

a. What type of light or glare will the proposal produce? **None.** What time of day would it mainly occur?

b. Could light or glare from the finished project be a safety hazard or interfere with views?

No.

c. What existing off-site sources of light or glare may affect your proposal?

None.

d. Proposed measures to reduce or control light and glare impacts, if any:

None.

12. **Recreation**

a. What designated and informal recreational opportunities are in the immediate vicinity?

There are no recreational opportunities at the site. The island is not open to the public without approval from DSHS. Around the island, boating occurs, as well as fishing and shellfish gathering. Personal vehicles/boats are not permitted onto beaches.

b. Would the proposed project displace any existing recreational uses? If so, describe.

No.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

There will be no impacts on recreation because no recreational opportunities exist at the site.

13. **Historic and cultural preservation**

a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

The Warden's house has been inventoried, but is not listed on the DAHP site as a preservation property. This structure will not be altered or at any risk.

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

The old Warden's house is listed in the WISAARD system (DAHP) as a historical structure. The structure has been altered since the photograph that is posted in the document (February 1982). The significance and history are listed as "Unknown" and "Unable to document at this time," respectively. While there are other historically important structures on the island, none of them are in close proximity to the project.

c. Proposed measures to reduce or control impacts, if any:

Keep project within the proposed footprint. The house will be protected as necessary to keep it unaltered and without any impact.

14. **Transportation**

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

The island must be reached by either barge or ferry, both run by DSHS. Security clearance must be granted before boarding either and an identification badge must be obtained. Coastal Road provides access from either the ferry or the barge dock. Other intersecting roads may be used as desired once on the island.

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

The site is not served by public transit. The nearest transit stop is in Steilacoom approximately a block from the ferry and barge docks, at Union and Commercial.

c. How many parking spaces would the completed project have? How many would the project eliminate?

The completed project will not add any parking. None will be removed.

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

Because the perimeter cannot be closed for any period of time, a secondary road will be created in the footprint of the current road prism. The road area will be widened enough to allow a vehicle to pass while construction is taking place. This lane will be removed once the structure is in place and construction is complete.

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

During project construction, the McNeil Island barge will be used to bring supplies and equipment over. The barge schedule will be made available to the contractor. The ferry may be used to transport personnel across to the island if vehicles remain on-site for contractors. Barges and ferries depart from all docks on time whether or not passengers are on board. Once the project is complete, no additional transportation will be used.

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

There will be no additional trips generated by the completed project.

g. Proposed measures to reduce or control transportation impacts, if any:

None.

15. **Public services**

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

No.

b. Proposed measures to reduce or control direct impacts on public services, if any.

None.

16. **Utilities**

a. Circle utilities currently available at the site: **No utilities exist at this site where work is to be completed.**

electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other _____

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

No utilities are planned this site.

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: Chris L Gourley

Name of signee: **Chris Gourley**

Position and Agency/Organization: **Biologist, Washington Department of Fish and Wildlife**

Date Submitted: **January 11, 2013**

Appendix A. Project Drawings